

MULTI-CHANNEL AUDIO ENCODING AND DECODING**ABSTRACT**

An audio encoder and decoder use architectures and techniques that improve the efficiency of multi-channel audio coding and decoding. The described strategies include various techniques and tools, which can be used in combination or independently. For example, an audio encoder performs a pre-processing multi-channel transform on multi-channel audio data, varying the transform so as to control quality. The encoder groups multiple windows from different channels into one or more tiles and outputs tile configuration information, which allows the encoder to isolate transients that appear in a particular channel with small windows, but use large windows in other channels. Using a variety of techniques, the encoder performs flexible multi-channel transforms that effectively take advantage of inter-channel correlation. An audio decoder performs corresponding processing and decoding. In addition, the decoder performs a post-processing multi-channel transform for any of multiple different purposes.